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ABSTRACT

A study was conducted to determine the contacts between agricultural extension and family farmers in Israel. Structured interviews were conducted with a representative sample of 171 smallholder farmers. Advisers of the official Extension Service and the publications of this service and farmers' monthlies were considered to have contributed to farmers' practical, agricultural knowledge more than other sources of information. Among the activities of the Extension Service, personal farm visits by advisers were preferred, followed by farmers' visits to the extension office and calls to the adviser's home. Group activities, such as courses and group meetings in the village, were seldom mentioned. The majority of farmers would like to receive more economic advice. In comparing the Israeli findings to studies from other countries, Israel was the only country where extension was the main source of information. In Australia, Canada, and West Germany, peers and family were the main source of information. In the United Kingdom, the United States, and Canada, the press was the main source of information. Television and radio were not considered important sources of information. (Five data tables and 15 references are included.) (CML)

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THE CONTACT BETWEEN AGRICULTURAL EXTENSION AND FAMILY FARMERS IN ISRAEL - WITH SOME INTERNATIONAL COMPARISONS

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THE CONTACT BETWEEN AGRICULTURAL EXTENSION AND FAMILY FARMERS

IN ISRAEL, WITH SOME INTERNATIONAL COMPARISONS

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ABSTRACT

Structured interviews were held with a representative sample of 171 Moshav (smallholder) farmers in Israel. Advisers of the official Extension Service, the publications of this service and farmers' monthlies were considered to have contributed to farmers' practical, agricultural knowledge more than the other sources of information. Among the activities of the Extension Service, personal farm visits by advisers were prefered. Next came other forms of individual extension: farmers' visits to the extension office and calls to the adviser's home. Group activities, like courses and group meetings in the village were seldom. Technical extension is much more common than advice on economic and organizational matters; yet the majority of farmers would like to receive more economic advice. Advisers had more contact with better educated farmers. All other demographic factors had no significant influence on the dependent variables.

The Israeli findings were compared, where feasible, with studies made in the U.K., U.S.A., Canada, Australia and Germany. When given the opportunity to mention peers and family as main source of information, this source came in first place in Australia, Canada and Germany. Israel was the only of country reviewed, in which extension was the main source of information. In the U.K., in a U.S. and a Canadian study, the press took first rank. Television, and even more so radio, were not considered important sources of information.

INTRODUCTION

In many countries, agricultural extension is considered to be an important factor in the improvement of farming, and various methods of extension are used; but only relatively few systematic studies have been published on farmers' reactions to extension, their preference for different types of extension activities and their sources of information. In the discussion of our findings, we shall compare them with similar investigations conducted in other countries, as far as such a comparison is feasible.

Western countries follow different policies concerning their small farmers. While some favour the disappearance of small, uneconomic farms in the move towards more efficient farming, others make great efforts to preserve their small farmers, especially in hill regions. Accordingly, some evaluative investigations on the impact of agricultural extension services focused mainly on larger, commercial farmers, (e.g. Blackburn, 1984, 1987; Boland, 1987; Hoffmann, 1984), while others emphasized the problem of the smaller farmers who often have less contact with agricultural extension services (e.g. Crespi et al.,1978; Ironside, 1978; Kipfer, 1978; Pickl, 1977; Zuurbier, 1978). Where comparisons were made, small farmers were found to use and appreciate extension activities less than large farmers (ADAS, 1980; Blackburn, 1984; Blackburn et al., 1982).

The position of agriculture in Israel is similar to that in most industrialized Western countries. Although much of their produce is exported, farmers constitute a minority and there is a growing tendency to curtail the free extension service offered to farmers. The extension service advices both branch managers in the collective Kibbutz settlemernts and individual farmers in Moshav (smallholder) villages, in which the agricultural work is performed by the farmer and his family, with occasional, mainly seasonal extra labour. Most of Israeli farmers live in Moshavim, many of which are at present in a difficult economic situation. In this context, a study was made on the questions, how far Moshav farmers actually use and appreciate the different services of the extension system, compared to other sources of practical, agricultural information.

METHODOLOGY

A structured interview questionnaire was developed and content validated by a panel of agricultural advisers. The questionnaire included also (as independent variables) demographic items and questions about the composition of the farm. The first draft of the questionnaire was tried out with a small sample of farmers, and it was improved, based on the feedback of the trial run. These preliminary interviews served also for the training of interviewers.

Seventeen villages in the Rehovot area were chosen as stratified sample, based on recent data of the State of Israel (1985) Central Bureau of Statistics, so as to represent as much as possible the demographic profile of Moshavim in the country as a whole. Names of farmers were drawn at random from the list of practicing farmers which was obtained from the Moshav Secretariats. 171 farmers in 17 Moshav villages were interviewed. All interviews took place on the respective farms.

The sample represented the national distribution of Moshav farmers as to ethnic background, age, education, main production branches and farming experience. However, in our sample full-time farmers had a higher proportional representation than part-time farmers. Therefore these two sub-samples were compared and only one significant difference could be detected: Full-time farmers had more frequent contacts to extension advisers than part-time farmers. A similar difference was also found by Blackburn et al.(1982) in Canada. Since the extension system prefers serving full-time farmers, whose income depends on the success of their farm, this skew in the sample even enhances the representation of the extension service's target population.

Data were summarized and analyzed using the SAS computer programme. Data were cross-tabulated for subsamples like main production commodity and relative time devoted to the farm. Coefficients were computed for the correlations between demographic data (as independent variables) and the dependent variables studied. Differences between subsamples were tested for their significance, using t tests and chi square procedures.

FINDINGS AND DISCUSSION OF THE ISRAELI DATA

Farmers'Sources for Practical Agricultural Information

Each respondent was asked to rate on a five point scale, how much each of a number of possible sources contributed to his practical, agricultural knowledge. Interviewers used a card on which the numbers and corresponding ratings (from "very little or nothing" for rating one to "very much" for rating five). The findings are summarized in Table 1. When farmers did not use a certain source, its contribution to that farmer was obviously nil and the answer was categorized accordingly.

About here Table 1

A t-test showed that the sources fall into four groups which significantly differ from each other ($p < 0.01$), but the differences within each group are not significant. Advisers of the Extension Service are rated as the most useful source of practical, agricultural information. Some 15% of the respondents did not have any contact with extension advisers, and therefore also could not get any useful information from this source.

A similar, dominant role play the vets for those farmers who keep animals on their farm. Only because most farmers did not engage in milk, meat or wool production and therefore did not need a vet, his contribution fell into the second group of importance. When the non-users are excluded from the computation, vets are considered as useful information providers as extension advisers. This finding is similar to studies made among dairymen in Israel (Gakner, 1984) and in the United Kingdom (ADAS, 1980), in which farmers rated the veterinary surgeon highest as important source of information.

The next important source of information were the publications of the Extension Service. (More details on the use of publications by farmers will be the subject of a separate paper).

The third group of information sources is quite heterogeneous: transfer of information by way of mouth, when farmers meet other farmers or when they

discuss their problem with their family; but also mass media in the form of agricultural journals and television. The finding that television contributes more than radio to the agricultural knowledge of farmers is known from other countries, e.g. Great Britain (ADAS, 1984) and Wisconsin (Forest and Marshall, 1977). It was more surprising for Israel, where the Extension Service devotes more efforts to radio programmes than to television. Short, agricultural radio programmes are broadcast daily in Hebrew, our respondents' language, but the eight to ten minutes long programmes are scheduled at 6.20 in the morning. Israeli Television, which so far has only one channel, broadcasts only once a week a half hourly agricultural programme, in the late afternoon, and only in Arabic, with Hebrew subtitles (unless interviews are in Hebrew and then the subtitles are in Arabic). The agricultural programmes were included in the Arab speaking part of the television programmes because of the higher percentage of farmers in the Arab population. In both television and radio programmes, the main contribution comes from advisers of the Extension Service. The radio programmes are actually fully controlled by the Extension Service, but also the television programmes are strongly influenced by extensionists as producers or advisers.

Why, then, do Hebrew speaking Moshav farmers consider agricultural television programmes in Arabic as more useful source of information than radio? The answer has to be sought in the smaller number of farmers who listen to the radio programme, compared to the number of those who watch the agricultural telecast. This is probably the reason why 71% of the respondents rated the radio's contribution as negligible, compared to only 53% who gave this rating to television. A sign for the apparent difference in the perceived quality of the broadcasts can be seen in the different maximum ratings. Only 7% of the respondents rated the radio as very useful source of information, but more than twice as many (17%) gave this rating to television, although this medium reaches them only once a week, even not in their own language, and not dayly like the Hebrew radio broadcasts. The preference for television, in spite of these handicaps, can be explained by a number of facts. The visual, colourful medium in itself is more attractive; the hours of broadcasting, after work, are prefered; many farmers open the televisíon set nearly automatical when relaxing after their work; television programmes are longer and can deal with a topic in more depth; and

part of the concise radio information reaches farmers also through the leaflets of the Extension Service.

Of course, the use of one information medium by farmers does not cancel out the use of others. Actually, the correlation between watching television and listening to the radio was r=0.45, one of the highest correlation coefficients found in the study. Many of those who listen to the agriocultural broadcasts on the radio also watch agricultural television, but not vica versa.

The small contribution of agricultural organisations to farmers' knowledge is explained by the fact, that in Israel these organisations are no longer active in the field of information transfer, since this function was transfered to the Extension Service, more than twenty years ago. As Table 1 shows, farmers in Israel receive very little of their practical, agricultural knowledge from commercial firms.

The contribution of different extension activities

Respondents were asked to rate the extent to which different activities by the Extension Service contributed to their agricultural knowledge. The main data are summarized in Table 2. All differences are significant, at least at the $p<0.05$ level.

About here Table 2

Farmers prefer a personal farm visit by extension advisers over all other forms of extension work ($p<0.001$). Thirty-nine percent of the respondents rated the contribution of these visits as high or very high. Among the 23% who rated the value of the farm visits as very low or non existant are 14% who had no contact at all with the extension system.(See Table 3).

When the adviser does not come to the farm, the next best solution is to look him up in his office (where he usually can be found on a fixed day during the week) or to contact him at his home, by phone or in person, especially when he lives in the vicinity - a procedure quite accepted in the Israeli farm community. These three ways of personal contact are prefered by farmers over

group activities like field days, courses and group meetings in the village. According to the answers given to other questions in the structured interviews, about half of the farmers participated in field days, but only 17% of the respondents had participated during the last three years in a course, offered by the Extension Service. Last on the list are extension group meetings in the village or in the region. While farmers in the cooperative Moshav often meet to discuss economic and cultural issues, these meetings are usully held without any outside person. Israeli agricultural advisers prefer to receive telephone calls in the evening over meetings in the Moshav villages. On the other hand, during day time, both farmers and advisers prefered personal farm visits over group meetings. Although at the time this study was made, the manpower in the Extension Service had already been seriously curtailed, neither farmers nor extension advisers seemed to see the solution in more time saving group activities. At least at present, both groups are still used to their former personal contact through farm visits. This is also the reason why farmers' organisations agreed to participate in future in the costs of hiring extension advisers.

On the whole, the demographic variables did not significantly influence the dependent variables. However, coefficients in the range of $r=0.20 - 0.22$ ($p < 0.005$) were obtained for the correlations between the number of school years and the knowledge gained from extension advisers, when these visited their farm, when the farmer visited the extension office or when they talked over the phone. In short: extension advisers have more contact with better educated farmers, and this for two reasons: Less educated farmers did not know how to make use of the free extension services, and advisers initiated more visits to educated farmers, assuming that these would follow their advice more than less educated farmers. Zuurbier[17] found a similar situation in the Netherlands.

Frequency of adviser-client contact

Table 3 summarizes the answers to the question, how frequent farmers had contact with agricultural advisers.

About here Table 3

The percentage of those who had only one contact per year or even less (24%) is the same as for "no or very little contribution" by advisers' field visits (in Table 2). There is also a high overlap between the 14% of respondents who indicated they had no contact at all with advisers and the 15% who (in Table 1) rated the overall contribution of advisers as negligible. The percentage of farmers who had contact with extension advisers and the rate of contact was higher than in Germany (Boland, 1987), where 74% of the farmers had such a contact and the average rate of contacts was two to four annually.

Extension on agrotechnical and economic problems

Farmers were asked, how frequently they discussed with the extension adviser agricultural-technical problems, and how frequently economic-organizational problems. The findings are summarized in Table 4.

About here Table 4

Technical extension is much more common than economic advice. Half of the farmers never discuss economic problems with the adviser. This is not the outcome of lack of interest, but rather due to the high agrotechnical specialization of the Israeli advisers. As a matter of fact, 76% of farmers thought that more economic advice was needed, and 64% stated that they personally would like to get more economic advice. Boland (1987) found also in Germany a similar quest for more economic advice.

Summary of the Israeli data analysis

Looking for an overall picture, we can see that Israeli family farmers highly appreciate the usefulness of extension as provider of practical, agricultural information. Farmers prefer the different forms of personalized extension contact over group activities. Above all, they appreciate advisers' visits to the farm. With the cuts in manpower and petrol allowance, both advisers and farmers will have to adapt more to working with groups.

In the unstructured part of the interviews, more than half the farmers expressed their wish for more advice, especially on economic questions. Also criticisms were raised, but because these related rather to the performance of individual advisers and not to the system as such, extrapolations are unfounded.

Publications play a major role. On the other hand, commercial firms and private advisers do not contribute much to the information used by Moshav farmers. It will be interesting to observe, if these will become more conspicuous, after the recent cuts in the governmental extension service.

SOME INTERNATIONAL COMPARISONS

It is quite hazardous to compare data from extension and sociological studies made in different countries. The situations are different, but just that is often the trigger for comparative studies. In most cases, it is impossible to plan a multinational, comparative study, using identical instruments. Usually, the comparative researcher has to rely on existing studies. Even when these address the same issue, the questions asked and the categories of recording the answers vary from case to case.

In spite of these difficulties, we shall try and compare our own findings on the contact between farmers and extension with the results from other surveys the contact between farmers and extension which were conducted in some Western countries with developed agricultural extension services. In order to bring the data from different studies to a common denominator, we shall use in Table 5 the ranking of the answers, based on the various sources. Whenever separate data for smaller and bigger farmers were available, in the international comparison, we used the former. In most cases, the samples are representative for typical counties, regions or provinces, but not necessarily for whole nations. In spite of these restrictions to the interpretability of the data, some common patterns can be observed in the meta-analysis (see Table 5).

About here Table 5

With the exception of Israel, the official agricultural extension services do not come in the first place. When given the opportunity to mention other farmers (neighbours, friends, family) as source of information, or even their own experience - farmers in the Canadian, U.S., Australian and German studies ranked their peers or their own experience highest. Our meta-analysis cannot go into finer details about the characteristics of the farmers who indicated extension advisers or peers, respectively, as their main source of information. Two variables seem to be relevant - personal traits and stages in the decision making process. Scoullar (1979) found that farmers who prefer extension advisers and other "authorities" over peer farmers as source of information, showed different personal traits, when compared to those farmers who got their main advice from peers. In our own, ongoing work, in Israel, we have clear signs, that a given farmer prefers sometimes the extension service and sometimes other sources, depending on the stage in the decision making process (especially when contemplating the introduction of a new agrotechnology). More research is needed to clarify this issue.

Among the mass media, printed information is by far rated higher than television and radio. In the Canadian and U.K. studies, Farmers' weeklies and monthlies were mentioned as main information source (after the mouth to mouth information, in Canada). The difference between the periodicals and the publications of the extension service was found to be sometimes minimal. In the U.S. study, newspaper articles fulfilled a similar role as information medium.

Television and radio clearly fall behind the written media. They are usually not considered as important sources of information. Australia seems to be an exception. There, the radio plays an important role in transmitting market information. Where separate questions were asked about television and radio (in the Israeli, U.S. and U.K. studies), television always came in as the prefered medium.

Representatives of commercial firms and merchants were mentioned in all these studies as least important source of information. (In the U.S. study no such category was mentioned, although specially in the U.S. agricultural advice offered by representatives of commercial firms seems to be very common). This finding is especially interesting in the light of recent moves to "commercia-

lize" the advice offered by State extension agencies to farmers in some of the countries reviewed. As this meta-analysis shows, both governmental and commercial advisers did not serve as main source of information for small (and other) farmers. Maybe, that farmers' organisations who enjoy a high prestige among peers, in many countries, will be able to fill in the gap which might be created with the curtailing of official (usually governmental) extension services in many Western, industrialized countries, in which Agriculture still plays an important role.

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TABLE HEADINGS

Table 1

Contribution of different sources to practical, agricultural information

Table 2

Contribution of different extension activities

Table 3

Frequency of contact with extension adviser

Table 4

Frequency of agrotechnical and economical-organisational extension

Table 5

Rank order of farmers' preference for different sources of information, in each of six Western countries.

Table 1

Source of Information	Mean Rating	St.Dev.	% of respondents' rating 1	2	3	4	5
Adviser of Extension Service	3.1	1.4	15	20	22	22	21
Veterinary doctor	2.7	1.6	41	8	15	17	19
Extension Service publications	2.7	1.4	28	21	21	19	11
Neighbours and (farming) friends	2.2	1.1	37	25	25	11	2
Farmers' press	2.1	1.4	56	8	17	12	7
Television	2.0	1.3	53	18	13	10	7
Family	1.9	1.1	55	17	15	10	2
Radio	1.6	1.0	71	11	10	5	2
Professional organisation	1.6	1.1	72	8	13	4	4
Commercial companies, merchants etc	1.5	1.0	71	13	8	6	2

Table 2

Activity	Mean Rating	St.Dev.	% of respondents' rating				
			1	2	3	4	5
Adviser's visits to the farm	2.9	1.4	23	19	19	22	17
Farmer's visit to extension office	2.3	1.2	37	21	23	15	4
Calls at/to adviser's home	2.2	1.3	44	20	16	13	7
Field days	1.9	1.2	58	15	13	11	4
Courses	1.5	1.0	78	7	7	5	2
Local groups	1.4	0.8	76	14	4	5	-

Table 3

Once a fortnight or more	23%
Once a month	24%
Once in 3 - 4 months	29%
Once in a year or less	10%
No contact	14%

Table 4

Topics discussed with adviser	Mean Rating	St.Dev.	% of respondents' rating				
			1	2	3	4	5
Agrotechnical (professional)	3.0	1.4	17	21	21	21	20
Economical-organisational	2.0	1.2	46	27	11	11	6

Table 5

Source of Information	Israel (Rehovot)	Canada (Ontario) 1)	Canada (Ontario) 2)	U.S.A.[3] (Shawano,WI)	U.K.[4]	Australia[5] (Victoria)	FRG[6]
Official Extension	1	4[7]	2	4	2[8]	3	2
Ext. Publications	2	3		3	2		
Farmers Press	3	2	1	1[9]	1	2[10]	
Television and Radio	5	5	3	2	3		
Farmers (neighbours, family)	4		1			1	1
(own experience)		1					
Commercial firms	6	6			2	4	3

Sources and remarks:

1) Blackburn et al.(1981) The data relate to regular farmers (and not leaders)
2) Blackburn et al.(1982) The data relate to small farmers.
3) Forest & Marshall (1977)
4) ADAS (1980)
5) Blum et al.(1984) The figures were computed from a weighted mean of farmers with and without contact with the further education system.
6) Hoffmann (1984) The use of written material is emphasized in this study, but not directly compared with verbal information.
7) Visits to office.
8) Demonstrations and meetings.
9) Newspapers.
10) Media.